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PROGRESS IN NATIONAL AND INTERNATIONAL SPACE ACTIVITIES RELATED TO THE EARTH ENVIRONMENT, IN PARTICULAR PROGRESS IN THE GEOSPHERE-BIOSPHERE (GLOBAL CHANGE) PROGRAMME

Union of Soviet Socialist Republics: working paper

This working paper, containing updated information on the implementation of the Almaz ("diamond") programme in the Soviet Union, is submitted as a supplement to document A/AC.105/C.1/L.165 of 2 March 1990.

In the first half of 1991, the Soviet Union will launch the Almaz-1 space station to study the Earth's natural resources and oceans and seas, monitor the environment and perform other tasks for the benefit of the economy. The station is equipped with following apparatus.

1. Synthetic aperture radar with:

-	Resolution	15-20 m
-	Coverage:	
	Land	35-40 km
	Sea	100 km
-	Field of sight:	2 X 350 km

2. Radiometrical equipment with a working range of 0.8 cm and 5 cm, with:

- Resolution	10-30 km (improved up to five times in secondary processing)
- Coverage	500 km
- Sensitivity	0.3°C
- Accuracy in measuring the temperature of the underlying surface	0.5°-1°C

The following research programmes will be carried out on board the Almaz-1 station:

(a) A comprehensive programme to study the Earth's natural resources:

- Research for the solution of environmental problems and climate study;
- Study of oceans and seas.

(b) The Resurs-A comprehensive programme:

- Study of diverse natural and man-made formations with the aid of radiophysical equipment;
- Development of methods to study radar and super-high-frequency radiometrical information for general thematic mapping.

(c) The Okean-I programme - study of oceans and seas:

- Study of water-surface pollution;
- Study of sea-surface conditions;
- Determination of water-surface temperature;
- Determination of surface-wind speed and direction.

(d) The Poisk programme - study of the land surface:

- Study of the agro-ecological state and dynamics of agricultural areas;
- Determination of zones of filtration in land-reclamation works;
- Mapping of inhabited areas of the ground cover;

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- Study of seismically active regions;

- Mapping of underwater phenomena;

- Study of diverse geological structures by remote-sensing methods.

(e) The Torcs programme - study of the ice surface:

- Study of the state of the ice sheets;

- Study of ice conditions with a view to ensuring safe navigation.

(f) The Briz programme - study of the ecological state of coastal areas of the sea surface and of internal bodies of water:

- Study of the ecological state of the water surface, the development of bioplankton and the composition and dynamics of pollution (including thermal pollution).

(g) The Geos-A programme - development of new remote-sensing techniques for geological and ecological research.

(h) The Aral comprehensive programme - study of the ecological state of the Aral Sea.

More than 20 Soviet and foreign organizations will participate in these programmes.

All interested States, their research organizations and firms, as well as scientists and specialists, are invited to take part in the research and experiments conducted on board the Almaz-1 space station. Moreover, foreign partners will have ample opportunity to use and purchase photographs of the Earth's surface taken by the equipment on board the Almaz space station.

Work is carried out on a commercial basis at reasonable rates for scientific research.

Proposals concerning joint efforts should be addressed to:

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